In the Claims:

Please amend claims 6, 8, 13, 17, 18, 26-29, 32-33, and 37-38, which are submitted herewith in clean, replacement form as follows. Also, submitted herein below following the Remarks section are redlined, marked up versions of claims 6, 8, 13, 17, 18, 26-29, 32-33, which illustrate the amendments made to such claims.

Clean Version of Replacement Claims:

6. (Twice Amended) A method of specifically detecting E. coli in a liquid or liquified sample by polymerase chain reaction, comprising:

providing a liquid or liquified sample;

recovering bacteria from the liquid or liquified sample;

lysing the bacteria to provide a DNA sample;

treating the DNA sample under PCR conditions with a primer set specific for E. coli for forming an amplified DNA wherein the primer set comprises SEQ ID NO:1 and SEQ ID NO:14; and

detecting the presence of said amplified DNA as an indication of the presence of E. coli in the liquid or liquified sample.

8. (Twice Amended) The method of claim 6 wherein in the step of detecting the presence of said amplified DNA, the presence of *Escherichia coli*

is indicated when a signal is obtained which exceeds a predetermined threshold.

13. (Three-times Amended) A method of specifically detecting E. coli but not *Shigella boydii, Shigella flexneri, Salmonella typhi, Salmonella enterica, Salmonella arizonae, Enterobacter cloacae, Enterobacter aeromonas, Enterococcus faecalis, Enterococcus faecium, Streptococcus pyogenes, Pseudomonas* species, *Aeromonas hydrophila, Acinetobacter* species, *Klebsiella pneumoniae, Listeria monocytogenes, Neisseria meningitidis, Campylobacter jejuni, Campylobacter coli, Erwinia* species, and *Citrobacter freundii* in a liquid or liquified sample by polymerase chain reaction, comprising:

providing a liquid or liquified sample;

recovering bacteria from the liquid or liquified sample;

lysing the bacteria to provide a DNA sample;

selecting a target gene of E. coli and selecting an E. coli-specific target DNA sequence in the target gene;

incubating the DNA sample under amplification conditions with a DNA polymerase and a primer pair specific for E. coli but not *Shigella boydii, Shigella flexneri, Salmonella typhi, Salmonella enterica, Salmonella arizonae, Enterobacter cloacae, Enterobacter aeromonas, Enterococcus faecalis, Enterococcus faecium, Streptococcus pyogenes,*

Pseudomonas species, *Aeromonas hydrophila, Acinetobacter* species, *Klebsiella pneumoniae, Listeria monocytogenes, Neisseria meningitidis, Campylobacter jejuni, Campylobacter coli, Erwinia* species, and *Citrobacter freundii* for amplifying the target DNA sequence; and

detecting the presence of amplified DNA as a specific indication of the presence of E. coli carrying the selected E. coli-specific target DNA sequence, wherein the target gene is the *lamB* gene of *Escherichia coli*.

17. (Twice Amended) The kit of claim 16 wherein the detection agent is a dsDNA stain.

18. (Twice Amended) The kit of claim 16 further comprising a detection well having streptavidin coated thereon wherein the amplified DNA sequence is detected by the detection agent.

26. (Once Amended) A method of specifically detecting E. coli in a liquid or liquified sample by polymerase chain reaction, comprising:

providing a liquid or liquified sample;

recovering bacteria from the liquid or liquified sample;

lysing the bacteria to provide a DNA sample;

treating the DNA sample under PCR conditions with a primer set specific for E. coli for forming an amplified DNA wherein the primer set comprises SEQ ID NO:2 and SEQ ID NO:15; and

detecting the presence of said amplified DNA as an indication of the presence of E. coli in the liquid or liquified sample.

27. (Once Amended) The method of claim 26 wherein in the step of detecting the presence of said amplified DNA, the presence of *Escherichia coli* is indicated when a signal is obtained which exceeds a predetermined threshold.

28. (Once Amended) A method of specifically detecting E. coli in a liquid or liquified sample by polymerase chain reaction, comprising:

providing a liquid or liquified sample;

recovering bacteria from the liquid or liquified sample;

lysing the bacteria to provide a DNA sample;

treating the DNA sample under PCR conditions with a primer set specific for E. coli forming an amplified DNA wherein the primer set comprises SEQ ID No:3 and SEQ ID NO:16; and

detecting the presence of said amplified DNA as an indication of the presence of E. coli in the liquid or liquified sample.

29. (Once Amended) The method of claim 28 wherein in the step of detecting the presence of said amplified DNA, the presence of *Escherichia coli* is indicated when a signal is obtained which exceeds a predetermined threshold.

32. (Once Amended) The kit of claim 31 wherein the detection agent is a dsDNA stain.

33. (Once Amended) The kit of claim 31 further comprising a detection well having streptavidin coated thereon wherein the amplified DNA sequence is detected by the detection agent.

37. (Once Amended) The kit of claim 36 wherein the detection agent is a dsDNA stain.

38. (Once Amended) The kit of claim 36 further comprising a detection well having streptavidin coated thereon wherein the amplified DNA sequence is detected by the detection agent.